

Table E1. Diagnostic Performance of CTA for Detection of All Cerebral Aneurysms on a Per-Patient Basis

Parameter	Results (No. of Findings)				Test Performance (%)				
	TP	TN	FP	FN	Sensitivity	Specificity	PPV	NPV	Accuracy
Overall									
R1	889	451	7	19	97.9 (889/908) [96.8, 98.7]	98.5 (451/458) [96.9, 99.3]	99.2 (889/896) [98.4, 99.6]	96.0 (451/470) [93.8, 97.4]	98.1 (1340/1366) [97.2, 98.7]
R2	891	454	4	17	98.1 (891/908) [97.0, 98.8]	99.1 (454/458) [97.8, 99.7]	99.6 (891/895) [98.9, 99.8]	96.4 (454/471) [94.3, 97.7]	98.5 (1345/1366) [97.7, 99.0]
With intracranial hemorrhage									
R1	778	386	6	17	97.9 (778/795) [96.6, 98.7]	98.5 (386/392) [96.7, 99.3]	99.2 (778/784) [98.3, 99.7]	95.8 (386/403) [93.4, 97.4]	98.1 (1164/1187) [97.1, 98.7]
R2	780	388	4	15	98.1 (780/795) [96.9, 98.9]	99.0 (388/392) [97.4, 99.6]	99.5 (780/784) [98.7, 99.8]	96.3 (388/403) [94.0, 97.7]	98.4 (1168/1187) [97.5, 99.0]
Without intracranial hemorrhage									
R1	111	65	1	2	98.2 (111/113) [93.8, 99.5]	98.5 (65/66) [91.9, 99.7]	99.1 (111/112) [95.1, 99.8]	97.0 (65/67) [89.8, 99.2]	98.3 (176/179) [95.2, 99.4]
R2	111	66	0	2	98.2 (111/113) [93.8, 99.5]	100 (66/66) [94.5, 100]	100 (111/111) [96.7, 100]	97.1 (66/68) [89.9, 99.2]	98.9 (177/179) [96.0, 99.7]

Note.—Data in parentheses are numerators and denominators; data in brackets are 95% confidence intervals. There were 1366 aneurysms detected. FN = false-negative finding, FP = false-positive finding, NPV = negative predictive value, PPV = positive predictive value, R1 = reader 1, R2 = reader 2, TN = true-negative finding, TP = true-positive finding.

Table E2. Diagnostic Performance of CTA for Detection of Overall and Large Cerebral Aneurysms

Parameter	Results (No. of Findings)				Test Performance (%)				
	TP	TN	FP	FN	Sensitivity	Specificity	PPV	NPV	Accuracy
Overall									
R1	1100	451	16	41	96.4 (1100/1141) [95.2, 97.7]	96.6 (451/467) [94.8, 98.3]	98.6 (1100/1116) [97.7, 99.1]	91.7 (451/492) [89.0, 93.8]	96.5 (1551/1608) [95.4, 97.3]
R2	1101	454	14	40	96.5 (1101/1141) [95.3, 97.7]	97.0 (454/468) [95.4, 98.7]	98.7 (1101/1115) [97.9, 99.3]	91.9 (454/494) [89.2, 94.0]	96.6 (1555/1609) [95.7, 97.4]
>5 mm									
R1	423	451	0	7	98.4 (423/430) [97.2, 99.6]	100 (451/451) [99.2, 100]	100 (423/423) [99.1, 100]	98.5 (451/458) [96.9, 99.3]	99.2 (874/881) [98.4, 99.6]
R2	423	454	0	7	98.4 (423/430) [97.2, 99.6]	100 (454/454) [99.2, 100]	100 (423/423) [99.1, 100]	98.5 (454/461) [96.9, 99.3]	99.2 (877/884) [98.4, 99.6]

Note.—Data in parentheses are numerators and denominators; data in brackets are 95% confidence intervals. There were 1366 aneurysms detected. FN = false-negative finding, FP = false-positive finding, NPV = negative predictive value, PPV = positive predictive value, R1 = reader 1, R2 = reader 2, TN = true-negative finding, TP = true-positive finding.

Table E3. Diagnostic Performance of CTA for Detection of All Cerebral Aneurysms with Different Sizes Located at Anterior and Posterior Circulation

	Results (No. of Findings)				Test Performance (%)				
	TP	TN	FP	FN	Sensitivity	Specificity	PPV	NPV	Accuracy
Anterior circulation									
Overall									
R1	980	451	14	31	96.9 (980/1011) [95.6, 98.2]	97.0 (451/465) [95.3, 98.6]	98.6 (980/994) [97.7, 99.2]	93.6 (451/482) [91.0, 95.4]	97.0 (1431/1476) [95.9, 97.7]
R2	981	454	12	30	97.0 (981/1011) [95.8, 98.3]	97.4 (454/466) [95.9, 99.0]	98.8 (981/993) [97.9, 99.3]	93.8 (454/484) [91.3, 95.6]	97.2 (1435/1477) [96.2, 97.9]
>5 mm									
R1	369	451	0	3	99.2 (369/372) [97.6, 100]	100 (451/451) [99.2, 100]	100 (369/369) [99.0, 100]	99.3 (451/454) [98.1, 99.8]	99.6 (820/823) [98.9, 99.9]
R2	369	454	0	3	99.2 (369/372) [97.6, 100]	100 (454/454) [99.2, 100]	100 (369/369) [99.0, 100]	99.3 (454/457) [98.1, 99.8]	99.6 (823/826) [98.9, 99.9]
3–5 mm									
R1	460	451	7	10	97.9 (460/470) [96.3, 99.4]	98.5 (451/458) [97.3, 99.6]	98.5 (460/467) [96.9, 99.3]	97.8 (451/461) [96.1, 98.8]	98.2 (911/928) [97.1, 98.9]
R2	463	454	8	7	98.5 (463/470) [97.1, 99.9]	98.3 (454/462) [97.1, 99.5]	98.3 (463/471) [96.7, 99.1]	98.5 (454/461) [96.9, 99.3]	98.4 (917/932) [97.4, 99.0]
<3 mm									
R1	151	451	7	18	89.3 (151/169) [84.1, 94.6]	98.5 (451/458) [97.2, 99.7]	95.6 (151/158) [91.1, 97.8]	96.2 (451/469) [94.0, 97.6]	96.0 (602/627) [94.2, 97.3]
R2	149	454	4	20	88.2 (149/169) [82.4, 94.0]	99.1 (454/458) [98.3, 100]	97.4 (149/153) [93.5, 99.0]	95.8 (454/474) [93.6, 97.3]	96.2 (603/627) [94.4, 97.4]
Posterior circulation									
Overall									
R1	120	451	2	10	92.3 (120/130) [86.9, 97.7]	99.6 (451/453) [98.9, 100]	98.4 (120/122) [94.2, 99.6]	97.8 (451/461) [96.1, 98.8]	97.9 (571/583) [96.4, 98.8]
R2	120	454	2	10	92.3 (120/130) [86.9, 97.7]	99.6 (454/456) [99.0, 100]	98.4 (120/122) [94.2, 99.6]	97.8 (454/464) [96.1, 98.8]	98.0 (574/586) [96.5, 98.8]
>5 mm									
R1	54	451	0	4	93.1 (54/58) [84.0, 100]	100 (451/451) [99.2, 100]	100 (54/54) [93.4, 100]	99.1 (451/455) [97.8, 99.7]	99.2 (505/509) [98.0, 99.7]
R2	54	454	0	4	93.1 (54/58) [84.0, 100]	100 (454/454) [99.2, 100]	100 (54/54) [93.4, 100]	99.1 (454/458) [97.8, 99.7]	99.2 (508/512) [98.0, 99.7]
3–5 mm									
R1	46	451	0	2	95.8 (46/48) [86.1, 100]	100 (451/451) [99.2, 100]	100 (46/46) [92.3, 100]	99.6 (451/453) [98.4, 99.9]	99.6 (497/499) [98.6, 99.9]
R2	47	454	0	1	97.9 (47/48) [93.8, 100]	100 (454/454) [99.2, 100]	100 (47/47) [92.4, 100]	99.8 (454/455) [98.8, 100]	99.8 (501/502) [98.9, 100]
<3 mm									
R1	20	451	2	4	83.3 (20/24) [62.8, 100]	99.6 (451/453) [98.9, 100]	90.9 (20/22) [72.2, 97.5]	99.1 (451/455) [97.8, 99.7]	98.7 (471/477) [97.3, 99.4]
R2	19	454	2	5	79.2 (19/24) [58.1, 100]	99.6 (454/456) [99.0, 100]	90.5 (19/21) [71.1, 97.4]	98.9 (454/459) [97.5, 99.5]	98.5 (473/480) [97.0, 99.3]

Note.—Data in parentheses are numerators and denominators; data in brackets are 95% confidence intervals. There were 1366 aneurysms detected. FN = false-negative finding, FP = false-positive finding, NPV = negative predictive value, PPV = positive predictive value, R1 = reader 1, R2 = reader 2, TN = true-negative finding, TP = true-positive finding.

SUPPLEMENTAL FIGURE



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a.



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b.

Figure E1. A false-negative aneurysm of posterior cerebral artery in a 45-year-old woman with Moyamoya disease. **(a)** Volume-rendered DSA CT image shows a small aneurysm at the right posterior cerebral artery (arrow) that was missed in the initial evaluation by two readers. **(b)** Volume-rendered 3D DSA image shows that small posterior cerebral artery aneurysm (arrow) with a diameter of 1.86 mm.
